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TECHNICAL MANUAL

UNIFORM REPAIR/REPLACEMENT CRITERIA FOR  
SELECTED USAF SUPPORT EQUIPMENT (SE)

(ATOS)

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1. PURPOSE.

1.1 This technical order establishes a uniform system for repair/replacement of selected Air Force support equipment. It implements, in part, DOD Instruction 7220.21. It provides guidance in the following areas:

1.1.1 Development of an Air Force Uniform Repair/Replacement Criteria for Selected Support Equipment (SE).

1.1.2 Establishment of a maximum allowable onetime repair expenditure limit.

1.1.3 Estimating repair cost.

1.1.4 Publication of a technical order by each affected Air Logistic Center (ALC), to implement the uniform repair/replacement criteria for their assigned SE.

2. SCOPE.

2.1 This technical order applies to all Air Force activities possessing SE.

2.2 The following categories of equipment are excluded from this technical order.

2.2.1 Communications-Electronics (CE).

2.2.2 Precision Measurement Equipment (PME) as defined in AFI 21-113, Air Force Metrology and Calibration (AFMETCAL) Program (FSC 6625 equipment only).

2.2.3 Base funded items, such as GSA, DSA, local purchase, and local manufacture.

2.3 The following items may be excluded at the discretion of the Inventory Management Specialist (IMS).

2.3.1 Items which are not subject to extensive wear out, such as non-motorized maintenance platforms, adapters, fixtures and jigs.

2.3.2 Items which are not subject to obsolescence, such as maintenance platforms and simple trailers.

2.3.3 Items of relatively low inventory.

2.3.4 Items known to be phasing out of the Air Force inventory within two years without a comparable replacement.

2.3.5 Contractor Furnished Equipment (CFE) peculiar to a weapon system or major subsystem such as an engine, communications or navigation equipment may be excluded until such time as it becomes common.

2.3.6 Ground photographic and training equipment.

2.4 AFR 400-50, Joint Operating Procedures Management and Standardization of Mobile Electric Power Generating Sources, guidance applies to Mobile Electric Power Generating Sources (MEPGS) in case of any conflict between that publication and this technical order.

3. DEFINITION OF TERMS.

3.1 Support Equipment (SE). This is all equipment required on the ground to make a weapon system, command and control system, support system, advanced objective, subsystem, or end item of equipment operational in its intended environment. This includes all equipment required to install, launch arrest, guide, control, direct, inspect, test, adjust, calibrate, appraise, gage, measure, assemble, disassemble, handle, transport, safeguard, store, actuate, service, repair; overhaul, maintain, or operate the system, subsystem, end item or component.

3.2 Repair. The restoration or replacement of parts or components of materiel as necessitated by wear and tear, damage, failure of parts or the like in order to maintain the specific item of materiel in efficient operating condition. This type of repair will not result in an increase to the service life.

3.3 Overhaul. The disassembly, cleaning, inspection, repair, or replacement of parts or components, reassembly and test of any item or accessory in accordance with applicable technical orders, directives, or authorized manufacturers' publication to provide an operationally safe, serviceable and reliable item.

**NOTE**

Overhaul will result in an adjustment of the age of the item in accordance with paragraph 4.5.2.

3.4 One-Time Repair Expenditure Limit. The maximum allowable repair expenditure authorized for an item at any given point during its service life and will be expressed as a percentage of the replacement cost.

3.5 Service Life. The anticipated life of the equipment expressed in years and is based on repair of the item for correction of deficiencies excluding overhaul.

**4. POLICIES.**

4.1 The Air Force Uniform Repair/Replacement Criteria are intended to cause an evaluation and decision at the time an item of equipment is in need of repair and will be based on the following elements:

4.1.1 Service Life.

4.1.2 Maximum Allowable One-Time Repair Expenditure Limit.

4.1.3 Equipment Age.

4.1.4 Replacement Cost.

4.1.5 Repair Cost Estimate.

4.2 The service life of each item will be established by the AFMC activity having item management responsibility for the equipment involved. The responsible Equipment Specialist (ES), in collaboration with other item management organizations will consider all or portion of the following factors as applicable to determine and adjust the service life.

- (1) Design.
- (2) Materials.
- (3) Construction.
- (4) Maintenance concept.
- (5) Usage.
- (6) Transportation.
- (7) Cure-dated items.
- (8) Similar items.
- (9) Factual statistics or maintenance cost.
- (10) Development/Requirement objective.
- (11) Maintenance experience and data from the Maintenance Data Collection System.

- (12) Maintenance capability of using and support units.
- (13) Experience of non-military user.
- (14) Manufacturer's recommendations.
- (15) Materiel readiness.
- (16) Repair parts availability.
- (17) Operational/Environmental conditions.
- (18) Life of system being supported.
- (19) Product improvement.
- (20) Reliability.
- (21) MAJCOM Comments.

4.3 The initial year maximum allowable one-time repair expenditure limit for each item will also be established by the responsible Equipment Specialist. It must be higher than the cost of any single component in the end item and the same factors used in establishing the service life will be considered. One-time repair expenditure limits for other than initial year will be plotted by drawing a diagonal line between point A and point B on a chart similar to the one used as an example in figure 1. However, the one-time repair expenditure limit will at no time drop below ten percent. When the ten percent level is reached, it will continue at this level through the last year of service life. Further, this ten percent allowable one-time repair expenditure limit will continue to apply to an item after it has exceeded its service life and until the item is replaced.

4.4 Each ALC will review the service life and initial year maximum allowable one-time repair expenditure limit of each item as required and implement necessary changes by revising their technical order appendices accordingly (see paragraph 7.3.). Point A is established on the Y-axis of the chart by using the initial year maximum allowable one-time expenditure limit, and point B is established on the X-axis by using the service life.

4.5 The equipment age will be expressed in years and will be calculated as follows:

4.5.1 For an item that has never undergone overhaul, the year of manufacture as embossed on the original manufacturer's data plate attached to the item will be utilized to determine the age. This item shall become one year old on 1 July following the year of manufacture and shall accumulate an additional year of age each succeeding 1 July. No allowance shall be made for time the item is in storage.

4.5.2 For an item that has undergone overhaul, the year of overhaul as embossed on the overhaul data plate attached to the item will be utilized to determine age. This item shall automatically be considered as two years old at the time of completion of overhaul and shall become three years old on 1 July following the year of overhaul. No allowance shall be made for the time the item is in storage. At completion of overhaul, an overhaul data plate shall be permanently affixed to the end case or chassis and shall be placed in prominent place near the manufacturer's data plate, and shall be permanently and legibly marked in accordance

with MIL-STD-130D, paragraph 4.1 through 4.9. It shall contain the following minimum information:

4.5.2.1 Overhaul (or rebuilt for MEPGS, reference paragraph 2d).

4.5.2.2 Date of acceptance (month and year).

4.5.2.3 SE Registration Number or Standard Reporting Designator (if applicable).

4.5.2.4 Air Force Contract/Project Number.

4.5.2.5 Additional necessary information not contained elsewhere on the equipment.

4.5.2.6 Identification of Items Without Data Plates. For items that the date of manufacture/overhaul cannot be determined from data plates, the year of manufacture as indicated in the fifth and sixth digit of the registration numbers (if applicable) will be used (example, 611563AJD 0212). In those instances where the date of manufacture/overhaul cannot be determined from either the data plate or registration number, the NSN equipment specialist will provide the appropriate data upon request.

4.5.2.7 The replacement cost will be based on the unit price contained in the official item management data records of the base, which are updated monthly by mechanized stocklist changes (SLCS) disseminated from AFMC central data systems. Interrogations to obtain the current official unit price may be input to any Air Force data system containing official unit prices by personnel having direct access capability. Otherwise, interrogations should be directed to the Chief of Supply Division, Item Accounting Branch, Research Section, the responsible item manager or system manager or other-supply component having assigned responsibility for stock number research.

4.5.2.8 Repair cost estimates will be based on accomplishment of the required maintenance at the nearest government or commercial facility which has the repair capability and performs similar maintenance. The cost elements contained in paragraph 1-1.8.a. through h. of T.O. 00-20-3 should be used to estimate repair costs. Repair cost estimates will be based upon the total cost of return the

equipment to the serviceable condition specified in the authorized equipment manual. Necessary repairs will not be deferred or omitted so as to reduce the total estimated repair cost to a value less than prescribed by the maximum allowable one-time repair expenditure limitation for the purpose of continuing the use of equipment.

4.5.2.9 Repair expenditure for items that have exceeded their estimated service life will continue to be limited to ten percent of their replacement cost. Only minor repair of a minimum essential nature will be accomplished and will consist of the following:

4.5.2.9.1. Repair or replacement of minor components affecting safety or operation of the equipment.

4.5.2.9.2. Minor repair of major components.

## 5. SUPPORT EQUIPMENT COST CATEGORY.

5.1 SE items costing \$2500 or more will be assigned a maximum allowable one-time repair expenditure limit and estimated service life. These items will be listed in the applicable ALC technical order by NSN, PN, and Noun. The technical order will include a convenient table citing the repair expenditure limit for each year of the estimated service life of each item. Each ALC will use charts similar to the one illustrated in Figure 1 to compute the repair expenditure limits (reference paragraph 4.3.). For example, an item of equipment that has an estimated service life of 15 years and a maximum repair expenditure limit of 75% of the replacement cost would be charted as follows:

5.1.1 The diagonal line between the initial year maximum allowable one-time repair limit and the estimated service life indicates the expenditure authorized at any given point in the life of the item. For instance, an item that is five years old would have a maximum expenditure allowance of 50% of the replacement cost (reference C, figure 1).

5.1.2 When this same item is seven years old, the one-time expenditure allowance would be 40% of the replacement cost (reference D, figure 1).

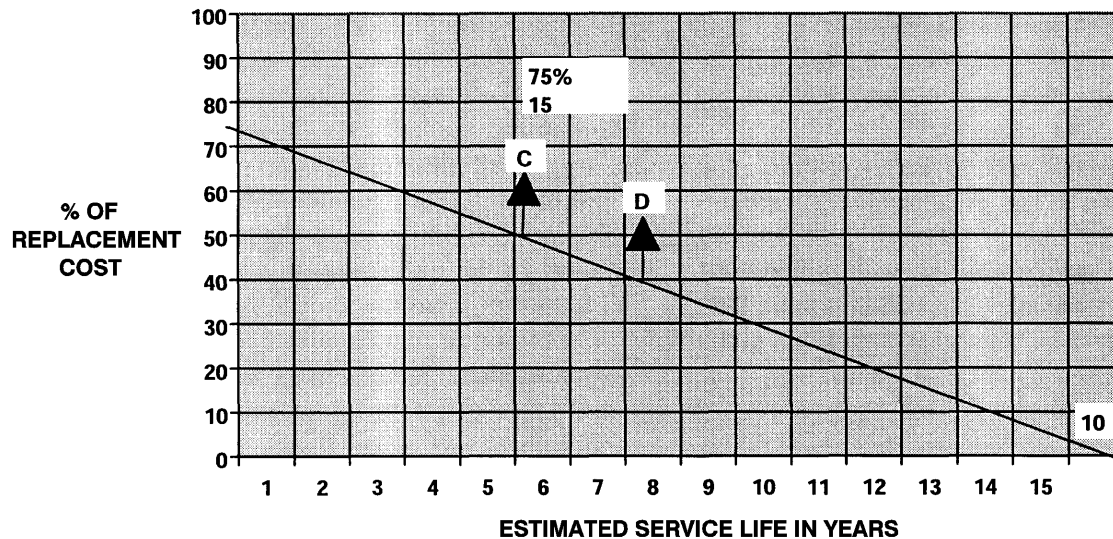


Figure 1. Chart to Compute the Repair Expenditure Limits (Sample)

5.1.3 When the repair cost estimate for selected SE in the ALC technical order exceeds the allowable one-time repair expenditure limit, the responsible maintenance organization must submit to the NSC IM a detailed description of the deficiencies and a detailed repair cost estimate on AFTO Form 375, either by printed form or electrically transmitted message, when priorities dictate, in accordance with the instructions cited in the implementing technical orders published by each ALC. MAJCOM HQ/LGM will forward their recommendations (3 copies) within five working days. The IM returns the evaluated copy of the AFTO Form 375 to the responsible maintenance organization only.

5.2 Items costing less than \$2500 each will not be identified in the technical order. This SE will be repaired if the repair cost is less than 75% of the replacement cost.

5.3 The senior maintenance officer at a specific activity may authorize repairs of equipment without prior NSC IM approval, provided a mission essential requirement exists for the item. Senior maintenance officers applying the above authority must support their actions by after the fact submittal of an AFTO Form 375 with a statement of justification to the NSC IM within five working days, with an information copy to MAJCOM HQ/LGM.

## 6. EVALUATION OF REPAIR OR REPLACEMENT PARTS.

6.1 Each IMS/ES will receive and evaluate repair cost estimates submitted by using maintenance facilities to determine if items should be replaced or repaired. Within five working days after receipt of the estimate, the IMS will advise the initiator and applicable MAJCOM or depot

maintenance facility whether the item will be replaced or repaired. Evaluation will include the following:

- (1) Programmed replacement of the item.
- (2) Type of deficiencies reported.
- (3) Cost to repair the item.
- (4) Cost to overhaul the item.
- (5) Time in service.
- (6) Recommendation of the using command.

6.1.1 NF2 (ERRC U, field repair only). - The responsible maintenance organization should demonstrate integrity in completing the AFTO Form 375 on NF2 SE items and refrain from inflating repair costs solely to justify condemnation and disposal. If the unserviceable NF2 SE item is excess, this information should be indicated in the Remarks and User Recommendation block of the AFTO Form 375. The IM and ES will review, evaluate and, based on asset posture and repair cost, determine which of two options, repair locally/waiver granted or disposal-reclamation or salvage, is most economical and beneficial to the responsible maintenance organization and the USAF. If repair is determined to be the most economical option and the NF2 SE item is reported as excess, the financial status of the responsible maintenance organization must also be considered. The IM will then initiate coordination other organizations with due-ins on this item to identify a recipient will to accept and repair the asset or an organization seeking a replacement and willing to cannibalize from it to enhance the condition of an older asset. The intent here is three fold; first, reduce the strain on field level budget allocations where possible; second, enhance customer support by utilizing every resource possible, and most important, three eliminate waste of transportation funds which occur each

time an unserviceable NF2 SE item is returned to depot. In the event the unserviceable NF2 SE item is not identified as excess and the evaluation warrants condemnation and disposal, the appropriate blocks will be checked to indicate same. The responsible maintenance organization will attach a copy of the evaluated AFTO Form 375 signed by the IM and ES to the unserviceable SE item for turn-in to base supply. In effect, this will reduce coordination required between stock control personnel and the IM and expedite disposal actions.

6.1.2 ND2 (ERRC S). - The responsible maintenance organization will forward the AFTO Form 375 to the cognizant ALC's IM for review and evaluation. Both the IM and ES will review, evaluate and determine which of the two options, ship to TRC/Contractor or Disposal-Reclamation or salvage is most cost effective. If the ND2 SE item is within the retention quantity and repair is required to support an active weapon system or FMS requirements the IM will provide detail shipment instructions for the TRC or Contractor in Block 20, IM/ES COMMENTS. If the ND2 SE item is excess and not required to support an active weapon system or FMS requirement, the IM will designate disposal actions in the same manner as described in 6.1.1.

6.2 If NSC IM response is not received within sixteen calendar days in the CONUS or 21 days calendar days overseas, the AFTO Form 375 initiator will follow up via message to the NSC IM with an information copy to MAJCOM HQ/LGM, citing the impact on mission accomplishment.

6.3 Compliance by Depot Level Repair Facilities. All Depot Level Facilities (organic, interservice or commercial) will comply with the provisions of this technical order for items received or in their possession. However, submission of repair cost estimates are not required if reports are furnished as required by paragraph 5 of this technical order or when the reporting requirements have been specifically waived by the IM.

## 7. PUBLICATION OF TECHNICAL ORDER.

7.1 Each affected ALC will publish a technical order to implement the economic repair program for its assigned SE, ensuring that the items selected are compatible with the

program guidelines and that changes are initiated when necessary. These technical orders (35-1 series) will be standard in format and will contain similar instructions for completion of AFTO Form 375. Rationale for selection, service life, and maximum one-time repair allowance for each item will be documented. A locally approved format will be used for this purpose and retained in the item history folder. This technical order will include an appropriate appendices for each assigned and affected NSC and will include but not necessarily be limited to the following:

- (1) Stock Number (interchangeable stock numbers will be listed separately).
- (2) Part Number.
- (3) One-Time Repair Expenditure Limit.
- (4) Service Life.
- (5) Instructions on preparations and disposition of repair cost estimates and request for disposition instructions. A reference will be made to T.O. 00-20-3 for elements of cost data to be used in estimating repair costs.

7.2 Reference to T.O. 00-25-240 will not be required for base level reporting. For any one item, only the applicable ALC T.O. and T.O. 00-20-3 (for cost elements) will be necessary for preparation of an AFTO Form 375.

7.3 Each NSC IM will establish procedures to determine the need to revise the initial year maximum allowable one-time repair expenditure limit and service life for each item and provide prompt publication of changes to repair expenditure limits in NSC technical order appendices. These changes will be documented as specified in paragraph 7.1 above. Whenever it is determined that specific critical items are in short supply and continued requirements therefore are imminent, or that replacements are not forthcoming from the new production, existing expenditure limitations will be evaluated in the light of latest circumstances and forecasts.

7.4 Questions from using activities concerning this technical order and/or the three technical orders T.O. 35-1-24, T.O. 35-1-25 and T.O. 35-1-26 should be referred to the Warner Robins OPR through the applicable MAJCOM HQ/LGM.

